

SCIENTIFIC NOTE
Notes on Two Species of Megaspilidae
in Hawaii (Hymenoptera:
Ceraphronoidea: Megaspilidae)¹

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ABSTRACT. Two immigrant species of Megaspilidae appear to be established in Hawaii. One, placed here in the genus *Dendrocercus* Ratzeburg, is known only from elevations above 3,000 ft on the islands of Maui and Hawaii, and was first collected here in 1946. A second species, placed tentatively in the genus *Megaspilus* Westwood, was collected on Oahu at about 350 ft elevation in February 1991. Neither has yet been identified to species.

In 1957, I reported as a new state record a ceraphronoid wasp from Hawaii island, identified by C.F.W. Muesebeck at the U.S National Museum as *Lygocerus* sp. (Beardsley 1958). The first collection was by E.C. Zimmerman at Humuula (7,000 ft) in August 1946. This species is now fairly common at elevations above 3,000 ft on Hawaii island (represented by about 40 specimens in the Univ. of Hawaii collection). It is also known on Maui from Haleakala where it was first collected in 1966 (Beardsley unpublished and 1980). The highest elevation at which it has been collected is at 9,000 ft on Hawaii island.

Until a few years ago, *Lygocerus* Förster was placed in the family Ceraphronidae of the superfamily Proctotrupoidea. However, Masner (1956) and Masner and Dessart (1967) separated the ceraphronids from the proctotrupoids, raised the group to superfamily status (Ceraphronoidea), defined two families within it (Ceraphronidae and Megaspilidae), and placed *Lygocerus* in the latter. Dessart (1966) also placed *Lygocerus* as a junior synonym of *Dendrocercus* Ratzeburg 1852. These changes were accepted in the most recent catalog of North American Hymenoptera (Krombein et al. 1979).

On Feb. 2, 1991, Mr. William Perreira collected five megaspilid specimens (4 males and one female) near Makiki Stream, el. 350 ft, Honolulu, Oahu. These were immediately recognized as distinct from the Hawaii island species because of the strikingly branched male antennal flagellum and stronger body sculpture. Using the key to genera of British Megaspilidae by Fergusson (1980), this species ran to *Megaspilus* Westwood. However, judging from the available literature, it appears that generic concepts in this group have not been defined adequately; therefore, this placement is tentative.

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The two megaspilid species now known in Hawaii may be distinguished by the following key.

KEY TO HAWAIIAN MEGASPILIDAE

1. Base of propodeum with a double-toothed, lamellate projection; disc of scutellum with a pair of sublateral, foveolate grooves; head sculpture foveate; six basal segments of male antennal flagellum each with a long, slender branch *Megaspilus* sp.
- Base of propodeum with an unbranched mesal projection; disc of scutellum without sublateral foveate grooves; head sculpture finely reticulate; basal segments of male antennal flagellum triangularly produced but without slender branches *Dendrocerus* sp.

Logically, one would expect that the species with the male antenna branched would be placed in *Dendrocerus*, and the other not. However, although some *Dendrocerus* spp. males do have strongly branched antennae, others do not (Fergusson 1980). Also, if Fergusson has correctly interpreted the importance of the double-toothed projection of the propodeum and other sculptural features in *Megaspilus*, it appears that our second species must belong there.

The known biologies of *Dendrocerus* spp. indicate that most develop as hyperparasites in aphids via aphidiine Braconidae and other primaries. Some species are known from other hosts; e.g. puparia of certain Diptera (Chamaemyiidae, Syrphidae) (see Fergusson 1980 for host information on British species). *Megaspilus* spp. have been reared from puparia of syrphids and other Diptera. As yet, no host information is available for either Hawaiian species.

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